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**14TH ANNUAL REPORT**  
**of the**  
**Pacific Northwest Electric Power**  
**and**  
**Conservation Planning Council**

*Submitted to the*

*Committee on Energy and Natural Resources*  
*United States Senate*

*Committee on Energy and Commerce*  
*United States House of Representatives*

*and*

*Committee on Natural Resources*  
*United States House of Representatives*

**October 1, 1993, through September 30, 1994**

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*The Northwest Power Planning Council was established by the Congress of the United States, and the legislatures and governors of Idaho, Montana, Oregon and Washington. These bodies charged the Council with convening a public forum through which the electricity needed by the Northwest could be secured economically, and the Columbia River Basin's fish and wildlife could be protected.*

*Specifically, Congress, in the Northwest Power Act of 1980 (Public Law 96-501), called on the Council to:*

- Develop a 20-year electrical power plan to guarantee adequate and reliable energy at the lowest cost to the Pacific Northwest.*
- Produce a program to protect and rebuild fish and wildlife populations in the Columbia River Basin that have been affected by hydroelectric development.*
- Conduct an extensive program to involve the public in deliberations over power planning and fish and wildlife protection.*

*This annual report has been developed pursuant to Section 4(h)(12)(A) of the Northwest Power Act.*



## **Overview**

### **Columbia River Basin Fish and Wildlife Program**

In January 1994, the Northwest Power Planning Council completed a nearly three-year process of amending the Columbia River Basin Fish and Wildlife Program. This work was completed in phases, beginning in August 1991.

In January 1994, the Council integrated the amended program with ongoing measures from the 1987 program. This integration included amending the Strategy for Salmon into the program. The 1994 program includes many important goals and policies that will influence our future decisions. For example, the program supports a comprehensive ecosystem approach to protecting and rebuilding fish and wildlife populations. Our goal is a healthy Columbia River Basin, one that supports both human settlement and the long-term sustainability of native fish and wildlife species in native habitats, where possible. In areas where the ecosystems have been irrevocably transformed, we must protect and enhance the sustainability of the new ecosystem.

The program outlined immediate improvements in river operations, but made it clear these would not be sufficient to protect all populations or rebuild them to the levels called for in our goals. Consequently, the amended program called for detailed evaluations of a variety of measures to improve passage of anadromous fish in their mainstem migration, including: reservoir drawdowns; potential new Snake River Basin water storage facilities; water efficiencies, transactions or other non-structural measures to secure more Snake River Basin water for anadromous fish; new dam operating rules to protect non-seagoing fish and wildlife populations associated with Libby and Hungry Horse reservoirs in Montana; and other matters. All of these reports grew out of recommendations that were submitted in our program amendment process. In the Strategy for Salmon, we committed to review those reports in 1994 and amend appropriate measures into the program.

Last May we requested recommendations regarding all program measures for anadromous fish. The deadline for recommendations was August 15, 1994.

On September 9, 1994, the 9th U.S. Circuit Court of Appeals ruled on a challenge to the Strategy for Salmon. The case was filed by the Northwest Resource Information Center, Inc., the Yakama Indian Tribe and several salmon advocacy groups, with utility groups and aluminum companies, among others, filing as intervenors. The Court held that the Strategy for Salmon should be reconsidered to ensure that it gives adequate weight to recommendations of the region's fish and wildlife agencies and Indian tribes. In addition, the Court asked whether the Strategy for Salmon was premised on adequate biological objectives. We are now reviewing the Strategy for Salmon and the recommendations for amendments we received over the summer, in



light of the Court's decision. We have met with representatives of the agencies and tribes to determine how the current rulemaking should proceed. They urged us to proceed with our current amendment schedule so we can have new measures in place for the critical spring 1995 salmon migrations.

We plan to release a draft amendment document in late September for public review and comment. Comment is expected to continue through November 10. We anticipate making a final decision on the amendments in mid-December. Following that decision, we will take up amendment proposals regarding resident fish and wildlife. We have asked that these amendment proposals be submitted by November 17. We expect to complete the resident fish and wildlife amendments by mid-January 1995. If we complete the fish and wildlife program amendments in this time frame, we could begin amending the power plan in the spring of 1995.

In 1994, we continued monitoring implementation of the Strategy for Salmon. We also made progress on other measures in the fish and wildlife program, which are detailed in this report.

### **Northwest Conservation and Electric Power Plan**

On the power side, the past fiscal year was split about evenly between supporting and monitoring implementation of the 1991 Northwest Power Plan and beginning development of the next plan. On the implementation side, the region's utilities and the Bonneville Power Administration were able to secure an estimated 150 average megawatts of energy savings in 1993. This is a new record for a single year's savings. Bonneville and the region's utilities have accelerated their development of renewable resources, including wind power projects, biomass-fueled generating plants, geothermal pilot and solar photovoltaic installations. In addition, Bonneville is moving ahead to secure options on resources that can be built quickly if and when they are needed.

In beginning development of the next power plan, we have looked carefully at the changes occurring in the electric utility industry as a whole, and at the Bonneville Power Administration in particular. Increased competition both among utilities and between utilities and new participants in the utility industry -- independent power producers, power brokers, industries that generate their own power, etc. -- is forcing utilities to cut their costs and operate more efficiently.

A major focus of the next power plan will be achieving the goals of the Northwest Power Act in this new competitive utility environment. We are proud of the region's conservation successes and want to ensure their continuation. We are re-examining and redesigning our planning processes and assumptions to make the new plan more relevant to and implementable by the evolving regional electricity community.



What follows is a summary of key actions we took between October 1, 1993 and July 1, 1994. This compilation will be updated for the final annual report in October.



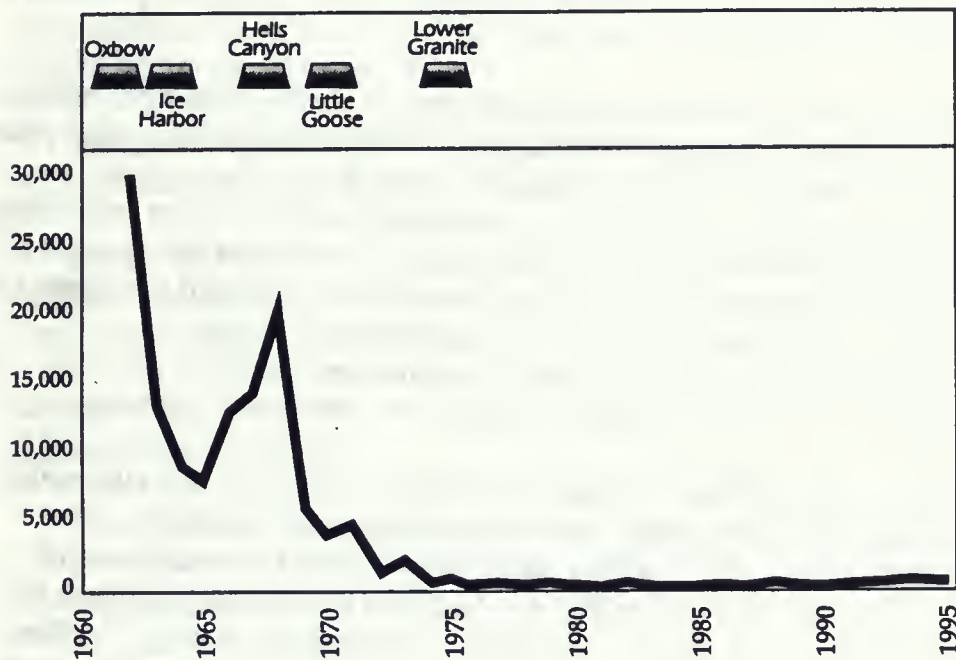
## Major Fish and Wildlife Activities of 1994

### Salmon and Steelhead

This year only about 1,000 spring and summer chinook returned to spawn naturally above Lower Granite Dam, spreading out among approximately three dozen naturally spawning populations in the tributaries. These are exceedingly small populations that may not be sustainable over the long term. In August, the Idaho Department of Fish and Game predicted that only 300 to 400 adult fall chinook salmon would cross Lower Granite Dam. If this estimate is accurate, the 1994 Snake River fall chinook run could be the second-lowest on record. Even fewer spring and fall salmon are expected to return in 1995 and 1996. (See Figures 1 and 2.)

Figure 1

### Snake River Wild Fall Chinook Returns With dam completion dates

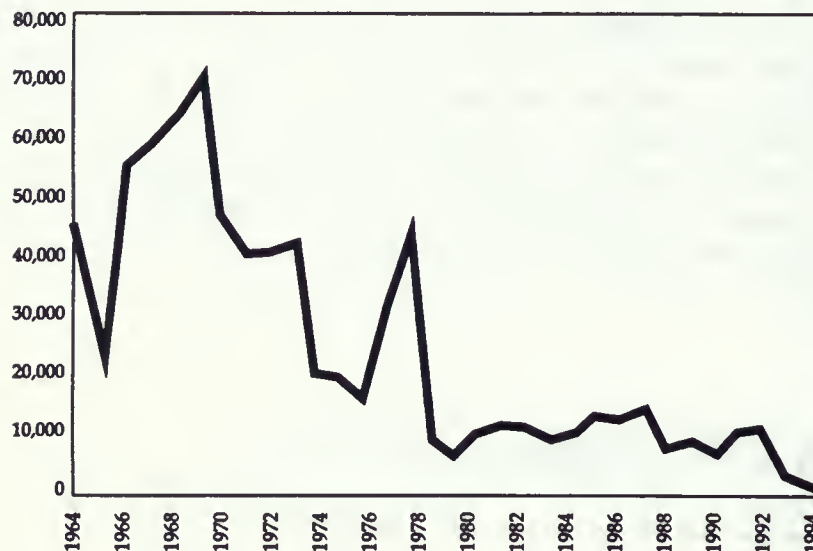




**Figure 2**

## **Wild/Natural Spring and Summer Chinook**

Estimated returns to uppermost dam



We know there are many reasons for the decline of these runs and others in the Columbia River Basin. The impact of dams, historic overfishing and poor hatchery practices, for example, can be blamed, and so can damage to spawning and rearing habitat. Much of the reduction in this year's runs also may be attributable to the seven-year drought in the Columbia Basin and to very poor feeding conditions in the ocean. However, a successful program to rebuild these runs must be able to withstand unfavorable natural circumstances -- just as the runs were able to withstand adverse natural conditions when they were healthy. If it doesn't, the runs will be lost.

The Council's Strategy for Salmon aims to improve survival for all stocks in the Columbia River Basin, including those being protected under the Endangered Species Act. On September 9, 1994, the 9th Circuit Court of Appeals remanded the Council's Strategy for Salmon for reconsideration on several points. The Court said that in adopting the salmon strategy, "...the Council failed to explain a statutory basis for its rejection of recommendations of fishery managers and to evaluate proposed program measures against sound biological objectives." The Court held that it could not consider the findings on recommendations the Council issued simultaneously with the Strategy for Salmon, but in a separate document. The Court also expressed concern that the Council "...may have failed to give proper deference to the fishery managers and to fully comply with other substantive criteria for program measures." The Council is in the process of reviewing the fish and wildlife program in light of the Court's opinion and correcting any deficiencies.

In the meantime, the existing strategy is being implemented. Implementation must continue while the National Marine Fisheries Service prepares its recovery plan for Snake River salmon. Most salmon runs in the Columbia Basin are in deep trouble despite substantial recovery efforts during the last 12 years, and we cannot afford delays of efforts to improve salmon survival.

We recognized in the strategy that the measures that can be implemented immediately would not be enough to protect all weak runs or rebuild them to levels that provide the benefits of a sustainable fishery. As a result, the strategy called for expeditious, detailed investigation of additional measures. We have received the results of these investigations, and we are studying other new scientific information. We will consider additional measures, including the court decision in our fall rulemaking.

As a region, we must broaden our focus beyond the Endangered Species Act. We must do more than just protect fish stocks from extinction. We want the region to enjoy once again the benefits of sustainable fisheries, as contemplated by the Northwest Power Act, tribal treaty rights and the rebuilding obligations to which the nation is committed under the U.S./Canada Pacific Salmon Treaty.

We invite the Northwest Congressional delegation to assist us in considering the difficult choices that lie ahead.

In the Strategy for Salmon, we called for immediate implementation of a number of measures to improve salmon survival. Here is a review of progress on some of those efforts during the current fiscal year.

### **Improving salmon survival in the rivers**

#### **Flow improvements**

- The region again augmented flows in the Columbia and Snake rivers during the 1994 salmon migrations. Federal river operators implemented the provisions of the Council's plan. They also provided additional storage to augment summer flows.
- River operations continue to be coordinated by the federal agencies, including the U.S. Army Corps of Engineers, the Bonneville Power Administration, the Bureau of Reclamation and the National Marine Fisheries Service, with the addition of the U.S. Fish and Wildlife Service in 1994. These agencies discuss proposals at regular meetings of the Fish Operations Executive Committee. Chaired by Council Chairman Ted Bottiger, the committee conducts public meetings regularly to review management of the river, identify and discuss disputes about timing and storage of the flows and resolve such disputes, if possible, through these discussions. At the end of 1993, the Governors of the four Northwest states



called on federal agencies to involve the states in their review of actions under the Endangered Species Act. The federal agencies responded by reviewing the results of their consultations with our Fish Operations Executive Committee. We are still working for greater state and regional participation in federal agency consultations under the Endangered Species Act.

#### Obtain additional Snake River Basin water

- The Council asked the state of Idaho and the Bureau of Reclamation to supply more water from uncontracted irrigation storage, water rentals and other water management approaches. In 1993, 424,000 acre-feet of water was provided from the Snake River Basin above Brownlee Dam, and 428,000 acre-feet was provided in 1994. These volumes generally meet the amounts requested in the Strategy for Salmon. In addition, the Snake River Water Committee is working to identify ways to acquire an additional 1 million acre-feet from the Snake Basin.

#### Improve bypass facilities at the dams

- The Corps of Engineers continued to install screens at mainstem dams to divert young salmon around the turbines. In 1993, the Corps installed screens at Ice Harbor Dam. New juvenile fish passage facilities at Ice Harbor and The Dalles dams are scheduled for completion by 1996 and 1998, respectively.
- In 1993, Congress appropriated funds to initiate design of longer diversion screens at five dams to keep fish away from turbines. The Corps is on schedule to extend the screens except at John Day and McNary dams. The Strategy for Salmon called for extended-length screens at McNary Dam by 1995. The Corps plans to complete this work by 1996. An analysis of installation of extended-length screens at John Day Dam was included in the System Configuration Study to determine benefits, costs and schedules. The Corps has initiated work leading to the installation of extended-length screens at this dam.
- Congress has directed the Corps to test a prototype surface bypass system at The Dalles Dam no later than 1996.

#### Improve transportation facilities

- The Corps began operating juvenile collection facilities at Lower Monumental Dam in 1993, increasing the capability of intercepting juvenile Snake River salmon. The Corps also continued to improve holding and loading facilities by installing roofs to shade the raceways at Little Goose Dam in late 1993 and Lower Granite Dam in 1992. The salmon strategy also called for testing improved transportation practices, such as transporting at lower densities, dispersing releases below Bonneville Dam and using alternative release sites. The Corps has implemented dispersed



releases below Bonneville Dam and, in 1992, started test releases of steelhead at Tongue Point near Astoria.

#### Test squawfish removal as a method to reduce predation

- 1993 was the third year of a major experiment to improve juvenile salmon survival by reducing the population of squawfish -- a key salmon predator -- in Columbia and Snake reservoirs. The experiment uses a bounty program and other test fishing methods to catch squawfish. Bonneville funds the fishery agencies and tribes to manage the program.

#### John Day reservoir drawdown

- The Council called on the Corps of Engineers to survey relocation of facilities and modifications to allow the longest Columbia River reservoir -- the John Day -- to operate at a lower level to speed flows. The Corps reported in its draft System Configuration Study, Phase 1 (April 1994), that the project costs would be about \$65 million for a four-month drawdown (or a total average annual cost of \$10.5 million) and \$99 million for a 12-month drawdown (or a total average annual cost of \$23.6 million). With encouragement from the Council and members of the Congressional delegation, the Corps agreed to accelerate its design of modifications to John Day facilities so that actual work could proceed more quickly if approved. The Council is continuing to review the John Day drawdown in amendment proceedings this fall.

#### Lower Snake River reservoir drawdowns

- The Corps and others are evaluating operation of the four federal lower Snake River reservoirs at substantially lower levels to speed river flows during salmon migrations. The Corps reported on 10 drawdown alternatives in its draft System Configuration Study. The report concluded that drawdowns would be costly and that construction schedules could range up to 17 years. However, an independent assessment of the Corps' evaluation concluded that the work could be done more quickly and at lower cost, but that biological benefits remain uncertain. The Corps and the National Marine Fisheries Service are studying the possibility of a lower Snake River biological drawdown test. A number of biological drawdown test alternatives are being analyzed, including a no-action alternative. The Council is taking up drawdowns during the amendment process for the fish and wildlife program this fall.

#### Additional Snake River storage and water delivery for fish

- Because options for securing additional water from the upper Snake River Basin are limited, the Council sought inventories of additional storage sites and water use efficiency and marketing measures. These reports are complete, and we will use them in reviewing amendments to the salmon strategy in our rulemaking this fall.

#### Expanded law enforcement activities

- The salmon strategy calls for increased law enforcement aimed at reducing the amount of illegal salmon fishing, as well as increasing protection of spawning and rearing habitat. These efforts, funded by Bonneville, continued in 1993 and 1994. The 1993 funding was \$4.4 million, and in 1994 it was \$3.2 million. The money is paying for additional personnel and equipment for fish, wildlife and police agencies in Idaho, Oregon and Washington, and the Columbia River Inter-Tribal Fish Commission. This effort is being evaluated.
- Fish screens at pumping stations on the Columbia were inspected for the first time in about a dozen years. The inspections found that more than half the screens at pumping stations were missing or do not meet standards. Repairs are being made.

#### Addressing the flow/survival controversy

- The Council is accelerating the region's studies of the relationship between river flows, water velocity and salmon survival this year. We contracted with Dr. Glenn Cada of the Oak Ridge National Laboratory in Oak Ridge, Tennessee, to conduct an independent review of available scientific data on the issue. Dr. Cada's report was widely distributed and discussed.
- In late February 1994, the Council conducted a technical workshop with a broad range of scientific experts to discuss areas of agreement and disagreement concerning flow/velocity-survival relationships and ways to test these relationships. This workshop helped us frame hypotheses on the flow/survival relationship and on transportation of juvenile fish to focus future research. We took public comment on the hypotheses and amended them into the fish and wildlife program in July.

#### Improving power system operations for fish

- We have asked federal power system operators to report on operational changes in the power system and ways to manage flood control to increase flows for fish. The agencies have combined these evaluations into a comprehensive review of all Columbia River power system management actions. A draft of the Columbia River System Operations Review, which contains recommended actions and their impacts was released for public review in August. Council staff are studying the Systems Operations Review and preparing comments on it.

#### Addressing resident fish impacts of salmon strategy measures

- Because changes in power system operations to benefit salmon can affect fish and wildlife dependent on reservoirs, the Council asked for additional studies and development of operational guidelines to protect reservoir-dependent species. Our goal is to minimize the impacts on resident fish of measures to protect seagoing fish and vice versa. State and tribal officials



continued to work on developing these management guidelines in 1994. The Council is considering measures to protect resident fish in Grand Coulee, Hungry Horse, Libby and Pend Oreille reservoirs.

## **Improving harvest practices**

### Reduce harvest rates

- In our Strategy for Salmon, we asked harvest managers to reduce fishing levels on Columbia and Snake River salmon. We recommended no commercial harvest of sockeye salmon below the confluence of the Columbia and Snake rivers. Spring and summer chinook were already protected to a large degree from ocean and river harvest, but Snake River fall chinook return in the middle of the summer season with the stronger lower river coho and mid-Columbia fall chinook. Catches of Snake River fall chinook salmon averaged 74 percent in the 1980s. The Council asked for controls on fishing seasons for those fish to reduce the harvest rate to 55 percent or lower. In 1993 and 1994, harvest managers set harvest rates even lower.

### Develop harvest alternatives

- Work continued to initiate test fisheries in limited areas of the Columbia River and its tributaries where stronger runs return. Bonneville assists an Oregon Department of Fish and Wildlife "terminal" fishery in Youngs Bay near Astoria, Oregon. Bonneville staff are working with Oregon and Washington fisheries officials to identify similar opportunities elsewhere.
- Our program also calls for testing live-catch and other methods that would allow more selective harvest of salmon. Bonneville initially sought to defer funding for such demonstration projects when it adopted its budget for 1994. With the agency's agreement to fully implement the salmon measures, Bonneville staff contracted with Oregon and Washington to develop proposals in 1995 and 1996.

## **Improving spawning and rearing habitat**

### Develop model watersheds

We asked Oregon, Idaho and Washington to designate at least one Columbia River tributary in each state as a model watershed to develop methods to involve local residents in salmon recovery measures. Bonneville is assisting these efforts.

- *Washington* selected Asotin Creek, near Clarkston, as its model watershed. In 1993 the Asotin Creek model watershed team inventoried problems in the basin and initiated stream enhancement activities. Washington is extending its model watershed program into the Tucannon River subbasin. Washington also identified the Okanogan, Grays and Lewis subbasins as potential model watersheds, but the work currently is focusing on Snake River tributaries that support the threatened species. The effort is attracting the attention of other conservation districts, such as in



Washington's Entiat River Basin, and these districts are preparing petitions to be declared model watersheds.

- *Idaho* selected the upper Salmon River watersheds of the Lemhi, Pahsemeroi and East Fork of the Salmon River. Efforts there focus on improving water diversion facilities to protect salmon. The Idaho model watershed program is coordinated with Bureau of Reclamation water conservation demonstration projects.
- *Oregon* selected the Grande Ronde subbasin as the model watershed. Local, state and federal activities are being coordinated, and priority on-the-ground projects were started in 1993.

#### Tributary diversion screening program

- An accelerated program to update and install fish screens at irrigation and other water diversions by 1995 has been slowed due to construction delays and funding limits. The program is directed by the Fish Screening Oversight Committee of the regional fishery agencies, which has also not submitted its list of priority screening needs. The screening work is funded by Bonneville and Congressional Mitchell Act appropriations. We have urged all parties to accelerate their efforts.
- To ensure standard performance and design, Bonneville funded construction of additional screen shops in Idaho and Oregon. The Mitchell Act funds, administered by the National Marine Fisheries Service, paid for installation of the screens.

#### Water conservation projects

- The Bureau of Reclamation leads implementation of water conservation demonstration projects in Oregon, Idaho and Washington. The purpose is to test methods to increase the efficiency of irrigation water delivery and leave more water in tributaries for salmon. The Bureau's Idaho project is in the Lemhi model watershed and is consolidating water diversions from the river. The Washington project proposes a reregulation dam on the Yakima River below Wapato Dam to supplement flows when salmon are migrating. That project is in environmental review. In Oregon, local opposition delayed a demonstration project on the Wallowa River. Bureau officials returned to develop alternative proposals for the Wallowa and also for the John Day River.

#### Water quality

- The Environmental Protection Agency (EPA) leads a multiagency effort to identify water quality issues in the Columbia River Basin and set priorities for responses. However, funding to assist the effort is limited, and EPA officials sought the Council's assistance in obtaining additional funding

from Congress to assist the effort. Congress has encouraged the agency to continue the work, but with reallocation of its existing budget.

#### Federal land management policies for salmon

- The Forest Service and Bureau of Land Management are responsible for more than half the remaining Columbia River Basin spawning habitat. The Strategy for Salmon sought specific improvements in the policies of these agencies to improve salmon production and survival. Forest Service commitments for the Columbia River Basin continue to be delayed. Officials told the Council that the agency cannot revise grazing plans by 1996, as previously scheduled. The Council is seeking more specifics from these federal managers on their land management progress and their expenditures of allocated funds.

### **Improving Salmon Production Practices**

#### Regional hatchery practices and policies

- The Council asked the tribal, state and federal hatchery managers to develop coordinated regional guidelines for hatchery practices and management. At the Council's direction, and with Bonneville funding, the managers formed the Integrated Hatchery Operations Team in 1992 and spent much of 1993 meeting to compare their individual policies for genetics, disease, release and other issues. With these comparisons, team members developed proposed regional standards. We called for independent audits of the regional hatcheries using these standards. In August, the team released its proposed standards for public review -- scientific peer review already was completed by then. After approval by fishery managers, the Council will consider the standards further this fall.

#### Supplementation experiments

- A significant regional debate centers on rebuilding weak salmon runs by releasing hatchery-reared fish into streams to return to spawn naturally. To address controversy over the practice, called supplementation, we asked the agencies and tribes to propose a list of experimental projects. The agencies and tribes completed their list and forwarded it to Bonneville for funding in 1992. The proposals continue to languish, however, because the National Marine Fisheries Service has not determined if it will permit the experiments to proceed when they involve stocks that are listed under the Endangered Species Act.

#### Carrying capacity research

- The number of fish the river and its estuary can support is a significant unanswered question for the region. We've called on Bonneville to fund the development of alternative plans for researching the issues. Bonneville is expected to pursue this effort in 1994.



## **Evaluating program implementation**

### Independent scientific review

- Council staff are working with Bonneville and the agencies and tribes to form an independent scientific review panel and accelerate scientific review of the program. This was among the list of measures that was initially omitted from Bonneville's fish and wildlife budget for 1994, but Bonneville later committed to form the group by this fall.

## **Salmon Strategy Progress Review**

On March 30, 1994, the Council convened the second annual Salmon Strategy Progress Review in Portland. That meeting, like the first progress review in April 1993, brought together top officials from the implementing agencies and tribes to discuss progress and delays in the Strategy for Salmon. Oregon Governor Barbara Roberts and Senator Mark Hatfield addressed the gathering. This year, the progress review was preceded by a government-to-government meeting between the Council and representatives of Columbia Basin Indian tribes to discuss progress in restoring salmon, resident fish and wildlife populations in the basin. The tribes raised concerns about the pace of implementation. The Council and the tribes are following up on these concerns with Bonneville.

### Strategy for Salmon implementation problems

The Council's aggressive schedule for implementing the program has been difficult for implementing agencies to meet. Through regular monitoring of implementation of the salmon strategy, the Council noted these major areas where schedules set by the Council are not being met:

- Evaluations of additional measures to improve mainstem survival of salmon are behind schedule, in some cases significantly.
- In other program areas, implementation has yet to start. For example, the voluntary leaseback program for lower Columbia River commercial fishing licenses has not been implemented, nor has any program to demonstrate selective harvest gear. Bonneville attempted to implement the leaseback program, but difficulties arose concerning passing these fish through the tribal fishing zone between Bonneville and McNary dams. The Council will take up the leaseback issue again during the fall 1994 amendment process. Regarding selective gear, Bonneville contracted with the states of Oregon and Washington, but no demonstration projects have resulted yet.
- The Council asked the agencies and tribes to develop rebuilding targets for Snake River salmon. The tribes and agencies have been working on these in response to the Endangered Species Act, but they have not completed this task.



- The program procedure for obtaining independent scientific review of its results is not in place.
- A number of proposals for projects to rebuild weak salmon runs are stalled or progressing slowly. Among these are revision of federal land management rules to protect fish, integrated fish production policies and a study of the carrying capacity of the Columbia system.

## **Resident Fish**

In this fiscal year, the Council completed amendments to the Columbia River Basin Fish and Wildlife Program regarding resident fish -- those that do not swim to the ocean. Hydroelectric projects created a number of problems for resident fish, and the Council's program addresses resident fish losses caused by hydropower development and operation.

Resident fish mitigation is also appropriate in areas where salmon and steelhead were blocked from their habitat by the development and operation of hydroelectric projects. Measures to correct this can include substituting resident fish populations for lost salmon and steelhead runs.

The Council expects that Bonneville funding of resident fish and wildlife mitigation, having proceeded at low levels in the past, will be accorded a higher percentage of budget outlays in the future. In our program amendments, we adopted as an appropriate budget planning target 15 percent for resident fish and 15 percent for wildlife, leaving 70 percent for salmon and steelhead.

Here is a brief overview of the resident fish amendments:

## **Natural and artificial propagation**

### Protect genetic diversity

- The amendments call for development of a plan to conserve genetic diversity, and also guidelines to minimize genetic and ecological impacts of hatchery fish on wild and naturally spawning species. There has been no progress on these measures.

### Comprehensive watershed management

- Model watershed planning should be undertaken for resident fish as well as for anadromous fish. Washington, Oregon and Idaho have designated model watersheds, and progress is being made in each basin to improve conditions for fish and wildlife. These include riparian fencing, erosion control measures and new methods of watering livestock that keep animals out of streams.

## **Dam operations**

### Protect and enhance fish populations

- The amendments contain specific directions to dam operators regarding flow levels, and protection of habitat and fish runs. Reservoirs in the Columbia River system are operated to benefit numerous purposes, such as hydropower production, flood control, recreation, irrigation, transportation,

fish and wildlife and others. These multiple purposes can be in conflict with each other. The Council has called for the development of an accounting system that will clearly identify the purpose and quantity of any release of water from any Columbia Basin storage reservoir.

#### Lake Pend Oreille

- To address the problem of declining kokanee stocks in northern Idaho's Lake Pend Oreille, the Council sought public comment on a proposed Lake Pend Oreille study. The Council is considering amending the scope of work into the fish and wildlife program. The Corps of Engineers, which operates Albeni Falls Dam on the Pend Oreille River, the lake's outlet, Bonneville and the Bureau of Reclamation incorporated an alternative to address the problem of declining kokanee in the Columbia River System Operations Review.

#### Hungry Horse Dam mitigation

- The amendments contain a number of measures designed to aid reproduction of kokanee and other species in Flathead Lake and river system of northwestern Montana. These include recommendations on water releases from the dam, reservoir drawdown limits and development of operating guidelines, known as biological rule curves, for the project.

#### Libby Dam mitigation

- As with Hungry Horse Reservoir, the amendments contain a number of measures to protect resident fish in the Kootenai River and Lake Koocanusa, Libby's reservoir, including operating and drawdown constraints for Libby Dam. The Corps attempts to carry out these measures, accounting at the same time for legal authorities and operational mandates under the Endangered Species Act.

### **Specific species**

#### Sturgeon and bull trout

- Sturgeon and bull trout once were abundant in the Columbia Basin, but populations in some areas have declined. The amendments call for studies and evaluations that could lead to on-the-ground projects to aid these populations. In 1992, a technical committee was formed to implement sturgeon recovery measures. To aid sturgeon spawning, the Corps initiated a flow augmentation program in 1993, and increased flows for sturgeon spawning and recruitment in 1994.

### **Resident fish substitutions**

- Measures address specific populations of resident fish in areas of the Columbia Basin where dams block salmon runs. These include a number of projects designed to partially compensate Indian tribes for the loss of traditional salmon and steelhead fisheries, such as the trout hatcheries operated by the Colville and Spokane tribes on Lake Roosevelt and Sherman



Creek in Washington, and the Fort Hall Bottoms habitat restoration project on the Fort Hall Reservation in Idaho.

## **Wildlife**

Development of the Columbia River Basin hydropower system affected wildlife as well as resident and anadromous fish. Some flood plain and riparian habitats important to wildlife were inundated when reservoirs filled, and reservoir fluctuations have created barren vegetation zones in some areas. Hydropower development also resulted in a number of beneficial impacts, as the reservoirs have provided important resting, feeding and wintering habitat for waterfowl. Our fish and wildlife program takes into account both the negative and beneficial effects of hydropower development on wildlife.

In the fish and wildlife amendments adopted in November 1993, we established a wildlife goal of achieving and sustaining levels of habitat and species productivity that will fully mitigate wildlife losses from construction and operation of federal and non-federal dams.

But the dams serve multiple purposes, including flood control, navigation, irrigation and recreation, as well as hydropower generation, so we have argued that funding to recover damaged wildlife populations should be allocated among the various project purposes. Our amendments call for a collaborative effort of interested and affected parties to arrive at a fair allocation of costs.

We called on federal project managers and wildlife managers for the states and affected tribes to develop interim agreements for all wildlife recovery efforts, similar to the interim agreement that is in place for Washington. The amendments made clear that if the interim agreements were not developed by February 15, 1994, we would ask wildlife managers to recommend mitigation projects in Idaho and Oregon.

The deadline passed, and we requested project proposals. We then selected the highest-priority projects and, in May 1994, approved and forwarded them to Bonneville for implementation this year. The projects are:

### **In Idaho:**

- 1) A statewide environmental assessment of potential impacts from wildlife mitigation.
- 2) Protection and enhancement of wildlife habitat in the South Fork Snake River and Sand Creek areas of southeastern Idaho.

### **In Oregon:**

- 1) Continuation and refinement of the Oregon wildlife agreement planning project.
- 2) Confederated Tribes of the Umatilla Indian Reservation Riparian Corridors Project.
- 3) Willamette Basin Western Pond Turtle Mitigation Project.
- 4) U.S. Fish and Wildlife Service Cox Butte Wildlife Mitigation Project.





## Major Power Planning Activities of 1994

### Implementation of the 1991 Northwest Power Plan

#### Energy Savings

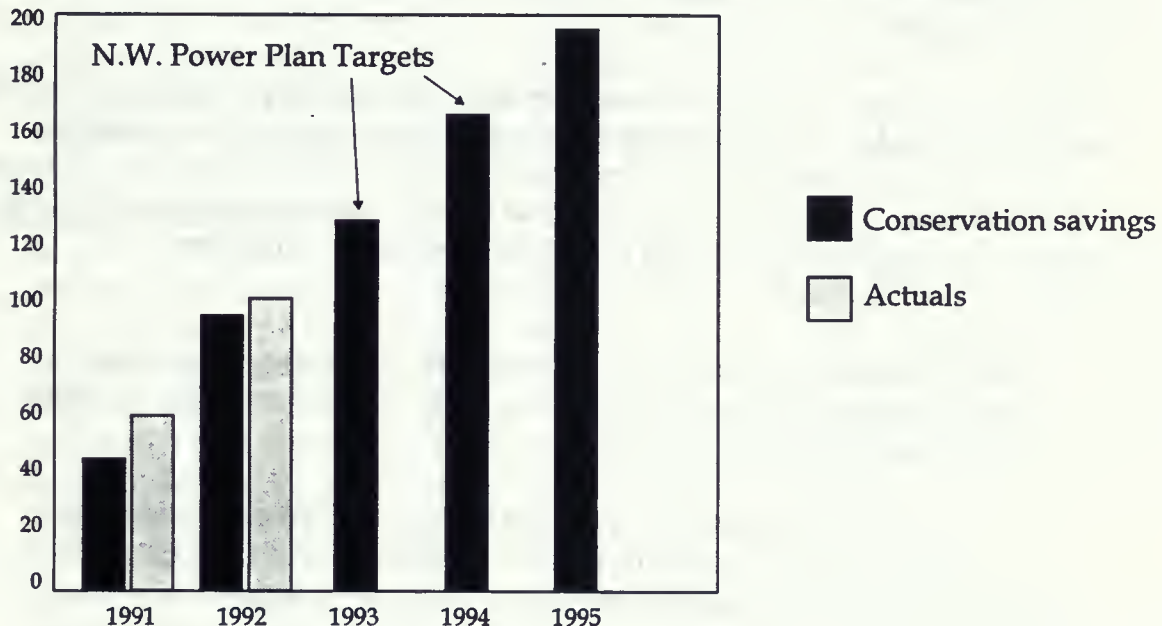
##### Utility programs

- Northwest utilities and the Bonneville Power Administration stepped up their energy-efficiency efforts in response to our 1991 Power Plan's call for at least 1,500 average megawatts of new energy savings by the year 2000. In 1992, the utilities and Bonneville secured a record 96.2 average megawatts of savings. Total cumulative energy savings from 1978 through January 1, 1993, amount to 650 average megawatts. Preliminary reports for 1993 suggest another record of approximately 150 average megawatts of savings. If these numbers hold true, the new cumulative total energy savings from 1978 through 1993 will be about 800 average megawatts. Most of these savings pre-date the Council's call for an additional 1,500 megawatts. (See Figure 3 for comparisons of conservation targets and achievements.)

**Figure 3**

### Pacific Northwest Conservation Savings

Regional targets and 1991 & 1992 actuals, in average megawatts



- Utility conservation totals for 1993 will be finalized and released in November in our third Green Book, which tracks utility energy savings in the region. Our second Green Book report was released in May. It details utility savings and program expenditures through 1992.
- The Green Book relies on the region's new computerized data base and tracking system, NU-Trak (Northwest Utility Conservation Tracking System) for its information. NU-Trak was established to 1) aid in regional power planning and implementation, 2) enhance utility planning and operations, and 3) provide useful information to state utility regulators. Utilities submit their data on savings, costs, number of participants, etc., to the Council for entry into NU-Trak, where the data is analyzed and made consistent for reporting. This year, NU-Trak was also used to review evaluations of conservation programs. Evaluation data from approximately 100 programs were filed in NU-Trak.
- "Conservation in Changing Times" was the theme of our third annual utility conservation conference, which was keynoted by Congressman Al Swift. This year the conference was an open dialogue among utility executives, regulators and conservation advocates, with former Seattle Mayor Charles Royer as moderator. Much of the discussion centered on utility responses to restructuring of the electric utility industry and competition from both outside and within the industry. Some utilities reported that they are under pressure to reduce their investments in conservation because of near-term rate impacts. Others noted that they are still committed to both a longer view -- conservation still being the most cost-effective resource over time -- and to meeting their customers' demand for an environmentally responsible energy future.
- The conservation conference also provided us the opportunity to formally recognize and honor the Northwest's most outstanding conservation achievements by utilities in partnerships with their customers. This year's eight winning projects will amass total energy savings of about 35 average megawatts, enough electricity for 21,000 Northwest homes. Winners included:
  - *Residential conservation:* Tacoma Public Utilities, Tacoma Urban League and Washington Natural Gas Company for the Watt n' Water conservation program.
  - *Commercial conservation:* Blue Cross Blue Shield of Oregon and PacifiCorp for a comprehensive building retrofit program that included lighting, heating/cooling system and window replacement.



- *Industrial conservation:* Columbia Colstor, Inc., and Cowlitz County (Washington) Public Utility District for a new energy-efficient cold storage building.
- *Innovative program:* Conservation and Renewable Energy System (CARES), an association of eight public utility districts in Washington that signed an agreement with the Bonneville Power Administration to reduce their energy consumption by about 25 megawatts over eight years. The eight utilities are in Benton, Clallam, Franklin, Grays Harbor, Klickitat, Okanogan, Pacific and Skamania counties.
- *Total commitment:* U.S. Army at Fort Lewis, Washington, Tacoma Public Utilities and Bonneville Power Administration. The goal of this ongoing project is to save about 5 megawatts of energy through retrofits at the Army base. The project is the largest energy conservation project ever undertaken in the Northwest.
- Bonneville is proposing to reinvent its conservation programs as part of the agency's new corporate approach to doing business. Instead of directly funding conservation efforts at utilities, Bonneville proposed a tiered-rate structure that would charge a higher rate for electricity purchases above a specified amount. The agency will continue to support market transformation efforts (see below). Bonneville has assured us that it still intends to acquire its share of the region's 1,500 megawatts of savings -- 660 megawatts. Whether these targets will be met with the proposed approach will depend on the degree to which local utilities pursue their own efficiency efforts. Bonneville customers have agreed to consider provisions in their power sales contracts to carry out integrated resource plans, which include conservation targets. The Public Power Council has endorsed an accountability mechanism and general criteria for integrated resource planning. Whether these are adequate, however, remains to be seen.

#### Market transformation

- In our 1991 Power Plan, we suggested that activities that actually transform markets, such as incentives paid directly to manufacturers to produce only more-efficient products, or activities that lead to improved federal and state efficiency standards, are among the most cost-effective means of obtaining large amounts of energy savings. Consequently, we have been working both regionally and nationally to change efficiency standards, provide incentives to manufacturers, and work in partnerships with both manufacturers and utilities to promote the use of efficient products.
- Since 1991, Bonneville, the region's investor-owned utilities and the region's producers of manufactured homes have been operating a program to make all electrically heated manufactured homes sited in the Northwest super



efficient. Since the program began, more than 32,700 new manufactured homes have been constructed under the program. Approximately 26 megawatts of electricity will be saved through the program, at a cost to the utilities of only about 1.6 cents per kilowatt-hour, including administrative costs. However, the U.S. Department of Housing and Urban Development has revised efficiency standards for all manufactured housing in the country, and Bonneville, the utilities and housing manufacturers are in final negotiations over the level of payments that are to be implemented when the revised national standards take effect on October 25, 1995. The current payment is \$2,500 per home. The utilities and Bonneville proposed to offer the manufacturers a payment of \$1,500 per home after the October 1995 deadline. All of the manufacturers have agreed to continue in the program at the reduced payment level. All but one of the participating utilities have also agreed to continue with the program, and the last utility is still negotiating with Bonneville over whether it will continue.

- Our staff has been working with the national Consortium for Energy Efficiency to develop a proposal for promoting the use of heat pump water heaters nationwide. Heat pump water heaters are roughly twice as efficient as conventional electric water heaters. In our 1991 Power Plan we showed that the region could save as much as 190 average megawatts by installing heat pump water heaters instead of conventional water heaters in new electrically heated homes. Several Northwest utilities are forming a group to provide demonstrations of the "new" generation of heat pump water heaters to gain detailed installation and cost data. They are installing systems and beginning to collect data through this fall.
- The U.S. Department of Energy has proposed new efficiency standards for eight appliances, including fluorescent lighting ballasts and electric water heaters. The ballast standard would mandate electronic ballasts as the minimum. The standard for electric water heaters would require the use of heat pump water heaters. Standards are also proposed for electric ovens, microwave ovens, ranges/cooktops, color televisions and some types of fluorescent lamps. These standards will take effect three years after the publication of the final rule. Since these conservation measures were identified in our 1991 plan as being regionally cost-effective, staff commented in favor of their adoption.
- The Council joined three Northwest utilities and a number of utilities and organizations from around the nation in funding a market assessment study of motors that go to equipment manufacturers. This study was completed this summer. The results indicate that significant energy savings could accrue from making industrial compressors more efficient, but national efforts will be needed to both test and label different compressor units.

- Council staff is working with staff from the schools of architecture and engineering in the major public universities in the region to launch a consortium for energy efficiency in buildings. This effort is an outgrowth of the regional education and training plan that was developed as a result of the 1991 Power Plan.

#### Regulatory changes

- Montana's Public Service Commission is enabling the Montana Power Company to join the handful of Northwest utilities experimenting with ways to "decouple" power sales from company profits. Under the four-year experiment Montana Power has begun, the company's revenue allowance will be based on forecasts of the amount of electricity the company would have sold had it not undertaken efficiency efforts.
- In Washington, the state Utilities and Transportation Commission has been allowing Puget Sound Power and Light Company to operate under a decoupling arrangement since 1991.

#### Energy-efficient building codes:

Work in the region on energy-efficient building codes in 1994 was dominated by two issues: compliance with the Energy Policy Act of 1992 and commercial energy codes in Oregon and Washington.

Provisions in the Energy Policy Act required that all U.S. states review their energy codes for new residential and commercial buildings and compare them to national standards. For residences, states were to compare to the Model Energy Code published by the Council of American Building Officials, 1992 Edition, and determine through a public hearing whether it is appropriate to change their codes based on their findings. For commercial buildings, states were required to adopt energy codes equivalent to the American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 90.1-1989. The states are required to report to the secretary of the Department of Energy by the end of October 1994 their progress on both requirements.

Of more direct importance to buyers of new homes, the Energy Policy Act also put in place requirements that homes meet or exceed the provisions of the Model Energy Code in order to qualify for federally financed or insured housing, including all Federal Housing Authority, Department of Housing and Urban Development (HUD) and Farmers Home Administration loans. Homes built in states or jurisdictions that have adopted the Council's model conservation standards, equivalent codes or long-term Super Good Cents standards easily meet these requirements.

Progress made in the region in adopting new efficiency codes for commercial buildings has been substantial. The new Washington commercial code took



effect in April of this year, and Oregon has finalized its new code proposal, which is expected to be adopted this fall. Over the next 20 years, these two codes will provide as much as 500 megawatts of savings compared to current practice when the 1991 plan was developed. This resource is enough to power a city half the size of Seattle and is roughly twice as large as the Tenaska gas-fired turbine generator recently acquired by Bonneville.

#### State-by-state building code activities:

- *Idaho:* After fairly slow action on local adoption of upgraded energy codes, the Idaho Public Utilities Commission determined that a revision was needed to the statewide Idaho Residential Energy Standard and deferred to a group of builders to develop a proposal. The builders group has drafted a legislative proposal that is based on the current Boise energy code. Unfortunately, the proposed code falls short of both the Northwest Energy Code (based on the Council's model conservation standards) and the Model Energy Code referenced in the Energy Policy Act of 1992. Alternative proposals are being discussed by other groups including local governments and building officials, but there are no other proposals drafted for legislative action. The builders' proposal also does not address the commercial sector, where there are no statewide energy requirements.
- *Montana:* Montana adopted a modified version of the Model Energy Code with builder self-certification outside jurisdictions currently enforcing the Uniform Building Code. The code is very close to the efficiency levels provided in the Northwest Energy Code and meets the federal requirements. The state is looking at a process to upgrade requirements for commercial buildings to be compatible with the federal Energy Policy Act.
- *Oregon:* Oregon was the first state in the nation to certify its residential energy code to be equivalent or better statewide than the Model Energy Code requirements. Since the code does not distinguish between heating sources, all homes regardless of fuel type are eligible for federally backed financing merely by meeting the code. A study of compliance with the 1991 residential code indicated very high rates of compliance and acquisition of savings that was slightly better on average than the code required. The state also held hearings on a proposed new commercial code that would provide performance beyond that required by the Energy Policy Act. Adoption of the code is expected some time in the fall of 1994, with an implementation date of January 1, 1996. A consortium of all private and public gas and electric utilities has agreed to fund training, education and technical assistance for a two-year period after adoption of the code.
- *Washington:* Washington's residential energy code was determined to provide savings that are equivalent to the federal requirements. However, since the code requirements vary by heating source, only houses heated by



electric resistance elements are automatically eligible for federal financing. Homes heated with other sources must provide additional certification that additional insulation was installed in order to qualify for federally backed financing. Rather than modifying the code at this time to deal with the problem, the state chose to stay on the standard code change schedule to consider amendments that would make all new homes in the state in compliance with the federal standards.

In April of this year, Washington began enforcing the new commercial building code, which will provide savings in excess of the federal requirements. A collaborative group of private and public gas and electric utilities is funding a three-year training, education and technical assistance program that is run primarily by a group representing the commercial design and construction industry. The utility group is also working with the local governments to ensure adequate implementation of the code through some innovative third-party enforcement mechanisms. If successful, these mechanisms should be self-supporting after two years and serve as a model for ensuring high levels of compliance in the commercial sector.

### **New Generating Resources**

Since adoption of our 1991 Northwest Power Plan, the region has completed 454 average megawatts of new natural gas-fired power plants, and another 122 average megawatts of plants that can be fired with either natural gas or refinery gas. These totals include the Tenaska Washington I plant, which began operation in early April.

Approximately 75 average megawatts of new hydropower came on line since adoption of the plan, and another 63 megawatts of new hydropower is under construction. New biomass and municipal solid waste plants added 70 megawatts to the region's power supply since 1991. Altogether, the region has completed approximately 800 megawatts of new generating resources since adoption of the 1991 plan. The following major projects are in various stages of planning and development:

#### **Natural gas-fired**

- *Coyote Springs:* This Portland General Electric Project will consist of one and possibly two 247-megawatt gas-fired combined-cycle cogeneration units at Boardman, Oregon. The first unit is under construction.
- *Hermiston Generating Project:* This project is to be a 474-megawatt gas-fired combined-cycle cogeneration plant at Hermiston, Oregon. Output will be purchased by PacifiCorp.

- *Cowlitz Cogeneration Project:* This project is to be a 395-megawatt gas-fired combined-cycle cogeneration plant at the Weyerhaeuser Mill in Longview, Washington. No power purchaser has been announced.
- *Tenaska Washington II:* This project is to be a 248-megawatt gas-fired combined-cycle plant at the Frederickson Industrial Park south of Tacoma, Washington. Output will be purchased by Bonneville. Construction is under way.
- *Rathdrum 1 and 2:* These are two 88-megawatt simple-cycle combustion turbines, located near Rathdrum, Idaho. The plants are being constructed by the Washington Water Power Company. They are expected to be in service by January 1995.

### Biomass

Biomass-fueled power plants can be cost-effective under special circumstances, such as when biomass residues are present at a site offering cogeneration potential.

- *Scott Paper Biomass Plant:* Construction of a 52-megawatt wood residue cogeneration plant has commenced at the Scott Paper Plant in Everett, Washington. The project will be owned by Snohomish County Public Utility District. Construction and maintenance will be the responsibility of the Scott Paper Company, along with fuel supply. Output will be purchased by the Sacramento Municipal Utility District for a period of 12 years.

### Geothermal

The 1991 Power Plan calls for the development of pilot projects to confirm the feasibility and cost-effectiveness of using Northwest geothermal resources for power generation. Three sites are currently being considered for development of pilot projects. A fourth pilot project, at Vale, Oregon, was terminated following completion of an unpromising exploration well.

- *Newberry Geothermal Pilot Project:* The draft environmental impact statement has been released for the 30-megawatt Newberry Geothermal Pilot Project at Newberry Volcano, Oregon. Output of this plant will be purchased by Bonneville and the Eugene Water and Electric Board.
- *Borax Lake:* Anadarko Petroleum has confirmed the presence of a 300-degree Fahrenheit geothermal resource near Borax Lake in southern Oregon and is in negotiation with Portland General Electric to develop a plant at the site.
- *Glass Mountain:* The Calpine Corporation, in partnership with Trans-Pacific Geothermal, is planning development of a 30-megawatt pilot project at this site some 30 miles south of the Oregon border in Siskiyou County,



California. It is thought to be the largest undeveloped geothermal resource area in the United States. Three successful production wells have been completed and tested in the southern section of the resource area.

### Wind power

Interest in wind power has increased substantially with introduction of improved wind turbine technology and federal production credits. The 1991 Power Plan recommendations for construction of a commercial-scale project and a cold climate demonstration may be achieved by any one of several projects under development. Concerns about wind power's impact on birds, particularly raptors, could threaten development of this resource at several sites. Projects under development include:

- *Columbia Hills*: A contract has been signed between Kenetech Windpower and Puget Sound Power & Light, Portland General Electric and PacifiCorp for the development of a 50-megawatt wind project at Juniper Point in Klickitat County, Washington. The contract includes an option for an additional 50 megawatts. The plant will be constructed by CNF Contractors, a Kenetech affiliate and owned by the utilities. Permitting for 115 megawatts is under way. The initial 50-megawatt plant is expected to enter commercial service early in 1996.
- *Foote Creek Ridge*: The Bonneville Power Administration, PacifiCorp, Tri-state Generation and Transmission Company (Colorado), Public Service Company of Colorado and Eugene Water and Electric Board have contracted with Kenetech Windpower for development and operation of a 71-megawatt wind project in Carbon County, Wyoming. The environmental impact statement scoping process has been initiated. The plant is expected to be completed in 1996.
- *Columbia Windfarm I*: Bonneville and the Conservation and Renewable Energy System (CARES) have contracted with FloWind for development of a 25-megawatt wind project at Juniper Point in Klickitat County, Washington. A cumulative environmental impact scoping process has been initiated in conjunction with the adjacent Columbia Hills project. The plant is expected to be completed in 1996.
- *Umatilla County Windfarm*: Portland General Electric is negotiating with Kenetech Windpower for a 100-megawatt wind project to be built in Umatilla County, Oregon.
- *Sevenmile Hill Wind Project*: Zond Industries is seeking permits for a 25-megawatt wind power plant it is proposing to build in Wasco County, Oregon. No power purchaser has been announced for the project.



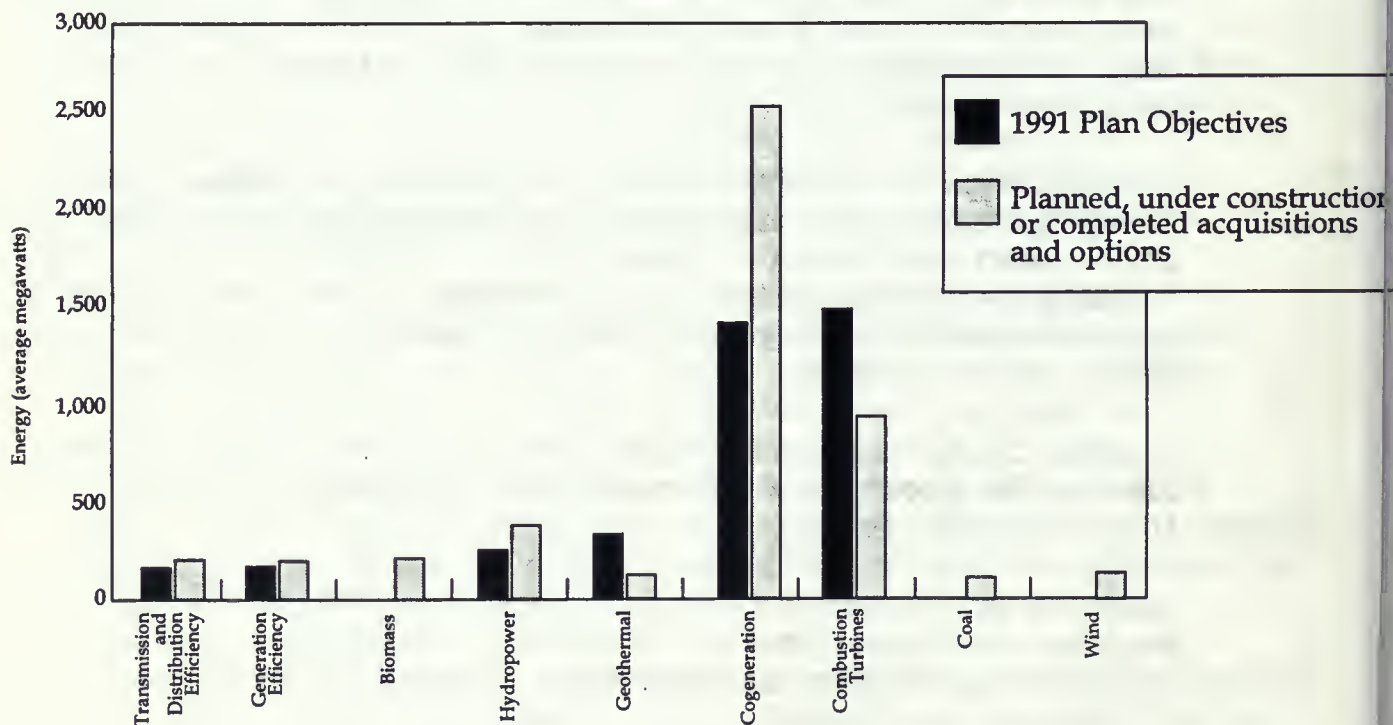
## Solar

Although central station solar generating plants are not yet cost-effective, increasing numbers of remote photovoltaic applications are cost-effective.

- The Eugene Water and Electric Board, Portland General Electric, the Idaho Power Company, PacifiCorp and Bonneville have agreed to fund establishment of a Northwest Solar Insolation Monitoring Network.
- Idaho Power Company's solar photovoltaic program for remote applications, initiated in 1993, is continuing. The company has several 10- to 20-kilowatt projects in process and is working on a design for a large application for Mountain Home Air Force Base.
- An 18-kilowatt experimental grid-connected photovoltaic array has been installed atop Idaho Power Company's Boise headquarters.
- PacifiCorp is installing three 5-kilowatt grid-connected experimental photovoltaic systems at commercial sites in Moab, Utah; Green River, Wyoming; and Bend, Oregon. The three projects are expected to be operational this summer.

**Figure 4**

## **Supply-side Resource Acquisitions and Options** January 1991 - September 1994



## Optioned Resources

In the 1991 Power Plan, we called on Bonneville and the region's utilities to complete the design and licensing of electric generating projects that can be constructed when and if their power is needed. We call this optioning. In October 1994, Bonneville signed agreements under its Resource Contingency Program to accomplish this goal. Contingency resources add flexibility to the power system by breaking the power plant construction process into two major decision stages: 1) projects are proposed, design begun and licensing processes initiated; 2) if and when the plants are needed, they can be completed. This reduces risk by completing time-consuming, but relatively inexpensive, steps before the more expensive, but relatively quick construction is started. Three power plants are included in Bonneville's Resource Contingency Program. The Council is working with state facility siting agencies to incorporate the optioning of resources in siting procedures.

- *Chehalis Generating Facility:* To be located in Lewis County, Washington, the Chehalis facility would be a combined-cycle natural gas-fired plant with 460 megawatt capacity. An environmental impact statement is in process on the proposed plant.
- *Hermiston Power Project:* The Hermiston project would also be a gas-fired combustion turbine, but with cogenerating capabilities. Its peak capacity would be 459 megawatts. It is planned for Umatilla County, Oregon.
- *Satsop Combustion Turbine I:* This gas-fired project, to be located in Grays Harbor County, Washington, would have the capability to generate 227 megawatts of power.

## Developing the Next Power Plan

As we began our analysis in preparation for the next Northwest Power Plan, we had first to address the changes in the utility industry nationwide. Though potentially encouraging more efficient use of generating plants, transmission lines and other electric system assets, these changes are putting pressure on utilities to prioritize short-term rate impacts over longer-term values like those contained in the Northwest Power Act. To explore this issue, we consulted with industry, government and environmental leaders from both the Northwest and other parts of the nation. In January, we released an issue paper detailing our concerns and projections. We heard comment on the paper and are responding to that comment.

We are taking a new approach to planning this time around so we will have a plan that still achieves the goals of the Act, but is implementable in a more competitive industry. The goals our power plan must address include: a long-



term least-cost power system; development of cost-effective conservation, renewable and high-efficiency resources; inclusion of quantifiable environmental costs and benefits in resource decisions; an adequate and reliable power system; protection, mitigation and enhancement of fish and wildlife affected by the hydropower system; and an open, public planning process.

It is our intent that we use the regional power planning process to find ways to guide the utility transition. For example, we can use our process of defining and analyzing various resource scenarios to help utilities assess the risks and uncertainties associated with a transition to more competitive markets. More changes in our approach to regional power planning are described below.

### **Role of natural gas**

- In our 1991 plan, we began to look more closely at the role natural gas would play in a regional energy scene. We have always looked at natural gas as a power plant fuel, but in our new plan we are also studying it as an alternative to electricity for direct applications such as space and water heating. In a study we conducted with the Association of Natural Gas Utilities we found that approximately 20,000 Northwest households had switched from electric heat to gas each year during 1991 and 1992. We are assessing the impact such fuel choice decisions could have on our forecast of future electricity use, as well as how much electricity could be saved and at what costs if utilities encouraged or subsidized such fuel choices.

### **Refining computer models**

#### Improved reflection of fish and wildlife impacts

- Our System Analysis Model (SAM) has been upgraded to improve its ability to simulate the effects on the power system of actions taken to improve conditions in the river for fish or wildlife.

#### Alternatives to critical water planning

- Traditionally, Northwest power planners based their planning assumptions for the hydropower system on what is termed "critical water planning." This is planning that assumes that the river can produce at least as much electricity as it has in the lowest recorded water years. In our current planning process we are expanding that approach to allow us to weigh other factors in determining how best to use the hydropower system.

#### Capacity in addition to energy planning

- Demands on the Northwest's power system -- for electricity, water for fish protection, irrigation, etc. -- are growing. As more and more demand is made of the river, the system becomes less flexible and less able to meet all the demands put on it over a given period of time. To account for this reduced flexibility and future load growth, our planning needs to be concerned with meeting peak loads as well as ongoing energy needs. We are

exploring ways of incorporating these so-called capacity issues in our power planning. In addition to hiring a consultant to help develop ways to computer model these issues, we have formed an advisory committee to assist us.

### **New forecasts**

- Our Economic Forecasting Advisory Committee has begun work on the new forecasts that will be incorporated into the new power plan. Early indications are that our medium and low economic forecasts will be revised downward due to changes in the lumber, wood products, aerospace, pulp and paper products and related chemicals industries. Some of these drops will be offset by increases in the service sector and by likely growth in population.
- We are also forming an advisory committee to work with us on new forecasts of future energy demand.
- To help refine both the new demand forecast and our estimates of how much electricity can be saved through utility conservation efforts, we contracted for a survey of all utility conservation program evaluations. This analysis gives us better numbers regarding how much electricity is actually saved through programs and at what costs. An issue paper reviewing the findings from this review has been released for public comment.

### **Resource analysis in the new plan**

- We have formed a Generating Resource Advisory Committee to explore existing and potential generating resources for the new plan. This committee is supported by technical advisory panels on specific resources, including solar, geothermal, biomass, wind, combustion turbines, cogeneration and low-temperature hydrothermal resources.

### **Assisting local utility planning**

- As Bonneville's customer utilities consider independent acquisition of resources, the Council is examining ways to make our planning data and analytical methods more usable by utilities. This includes development of a utility-scale planning computer model for integrated resource planning. We are working with consultants to determine what models already are available and how they would need to be adapted to suit Northwest utilities.





## **Fiscal Years 1994, 1995 and 1996 Budgets**

The Council is funded out of electricity revenues collected by the Bonneville Power Administration, a federal agency that markets power produced in the Pacific Northwest.

The Council's budget has remained relatively stable over the past eight years. The 1994 budget totaled \$8,460,000. This is lower than the Council's budget for 1992. In developing the Fiscal Year 1995 Revised and Fiscal Year 1996 budgets, the Council attempted to respond to financial difficulties Bonneville is facing. The draft revised Fiscal Year 1995 budget remains the same as 1994 levels -- \$8,460,000. The draft 1995 revised budget reflects absorption of 13 percent of the inflationary impacts since Fiscal Year 1992. The Fiscal Year 1996 budget was increased by \$346,000 (4.1 percent) to \$8,806,000.

In its attempt to constrain the Fiscal Year 1995 and Fiscal Year 1996 budgets, the Council maintained staffing at or below Fiscal Year 1992 levels, froze cost of living and salary adjustments and curtailed travel expenses. In addition, contract budgets have been reallocated to accommodate increased workloads, and administrative expenses have been reduced to help absorb the effects of projected annual inflation.





## **Council Meetings in Fiscal Year 1994\***

<b>Date</b>	<b>Purpose and Location</b>
October 13-14, 1993	Council meeting Spokane, Washington
October 27, 1993	Council meeting and committee meetings (1)(2)(3) Portland, Oregon
November 9-10, 1993	Council Meeting (1)(2)(3) Great Falls, Montana
December 8-9, 1993	Council meeting Portland, Oregon (1)(2)
January 11-13, 1994	Council meeting (1)(2)(4) Boise, Idaho
February 8-10, 1994	Council meeting Seattle, Washington
February 16, 1994	Council meeting Portland, Oregon
March 8-10, 1994	Council meeting (2)(3)(4) Helena, Montana
March 23, 1994	Council meeting Portland, Oregon
April 12-14, 1994	Council meeting (3) Eugene, Oregon
May 10-12, 1994	Council meeting (3)(4) Coeur d'Alene, Idaho
June 7-9, 1994	Council meeting (1) Spokane, Washington
July 5-7, 1994	Council meeting Whitefish, Montana



August 9-11, 1994

Council meeting  
La Grande, Oregon

September 13, 1994

Council meeting (3)  
Jackson, Wyoming

\* Portions of the above meetings were closed to the public for the following reasons as allowed under the Government in the Sunshine Act.

- (1) internal personnel
- (2) premature disclosure
- (3) civil litigation
- (4) retreat

### **Rulemakings in Fiscal Year 1994**

April 1994	Flow Velocity Survival
May 1994	Resident Fish and Wildlife above Hells Canyon and Pelton Dams
May 1994	Evaluation of Lake Pend Oreille levels
August 1994	Fish and Wildlife Program - Anadromous Fish

## **Council Members**

### **R. TED BOTTIGER (Washington, chair, appointed 1987)**

Bottiger was the majority leader in the Washington State Senate from 1983 to 1987 and the minority leader from 1981 to 1982. Prior to that, he was the chairman of the Senate's energy and utilities committee. He served in the legislature from 1965 until his appointment to the Council in 1987. Bottiger is of counsel in the Tacoma firm of Counsell, Murphy and Bottiger.

### **KEN CASAVANT (Washington, appointed 1994)**

Casavant has been a professor of agricultural economics at Washington State University since 1970. His areas of active research over the 25 years were transportation and policy. He served four years on the Pullman City Council and was president of the Pullman Chamber of Commerce. He also helped design the transit system in Pullman, and serves on the board of the Moscow-Pullman Airport and on the steering committee for the Washington State Department of Transportation Policy Plan. He was appointed to and served on the Air Transportation Commission from 1991 through 1994.

### **ANGUS DUNCAN (Oregon, appointed 1990)**

Duncan was corporate development director of District Utility Services Company, a PacifiCorp subsidiary that provides utility and energy management services to university and business campuses and urban centers. Prior to joining PacifiCorp, he held executive positions in two companies involved with wind energy. Duncan was director of energy policy for the U.S. Department of Transportation from 1979 to 1981. He was administrative assistant for policy to Mayor Neil Goldschmidt of Portland, Oregon, from 1975 to 1979. He represented the city in the drafting of the Northwest Power Act.

### **JOHN N. ETCHART (Montana, appointed 1993)**

A Montana native, Etchart has worked the past four years for the Burlington Northern Railroad in Fort Worth, Texas, where he was vice president for state government relations, and for communications and public affairs before that. Between 1984 and 1988, he worked for Burlington in the Helena, Montana, office as vice president for government affairs. He also worked for the U.S. Department of Interior as special assistant in the Bureau of Reclamation acting as liaison with water interest, environmental and economic development groups.

### **STAN GRACE (Montana, appointed 1989)**

Grace was the logging manager at Stoltze-Conner Lumber Company in Darby, Montana, for 15 years. Prior to 1972, he managed a guest ranch in southwestern Montana for four years and worked in the construction and logging industries as a heavy equipment operator at various times. Grace was a trustee of the Ravalli County Electric Cooperative, Inc., from 1983 to 1988, and has served as an officer with various hunting and fishing groups.



**TED HALLOCK (Oregon, appointed 1988)**

Hallock was an Oregon state senator from 1963 to 1983. During this period, he served as senate majority leader and as chairman of the senate committees on energy and the environment, land-use, human resources and housing. Hallock's legislative activities focused on statewide land-use planning, environmental quality, tax reform and health care. He co-authored Oregon's innovative 1973 land-use bill. In addition, Hallock operated a public relations firm in Portland from 1959 to 1988.

**ROBERT W. SAXVIK (Idaho, appointed 1981)**

Saxvik was chief of staff for Idaho Governor John Evans, and vice president and general manager of KBAR in Burley, Idaho. Saxvik served three terms in the Idaho State Senate where he was assistant senate minority leader. He was legislative liaison to the governor from 1977 to 1978 and director of the Office of Aging in 1978.

**JAY L. WEBB (Idaho, vice-chair, appointed 1992)**

Webb was an Idaho state representative from 1966 through 1969, where he chaired the Business Committee and was vice chair of the Revenue and Taxes, Resources and Conservation Committee. He also served as Idaho state senate attorney, Boise County prosecuting attorney and Ada County public defender. Until his appointment to the Power Council, he was a member of the Boise City Council, where he has served since 1986. He is an attorney in the firm of Givens, Pursley, Webb and Huntley.

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## **Comments on the Draft Annual Report**





# United States Department of the Interior

## BUREAU OF RECLAMATION

Pacific Northwest Region  
1150 North Curtis Road  
Boise, Idaho 83706-1234

IN REPLY  
REFER TO:

PN-6516  
ENV-4.00

Ms. Carlotta Collette  
Publications Editor  
Northwest Power Planning Council  
851 SW Sixth Avenue, Suite 1100  
Portland OR 97204-1337

Subject: Comments on the Northwest Power Planning Council's (Council) Draft  
Annual Report to Congress

Dear Ms. Collette:

We have reviewed the subject draft annual report and disagree strongly with the statement on page 5 that "Very little water has been made available to increase Snake River flows during the migration."

The Council's Salmon Strategy asks Reclamation to work with the State of Idaho, irrigators, and others to provide 427,000 acre-feet of water from the Snake River basin above Brownlee for lower riverflow augmentation. In 1993, 424,000 acre-feet of water was provided, and 428,000 acre-feet is being provided in 1994 to augment lower riverflows. These volumes generally meet the Council's request.

The Council's strategy also asks Reclamation to participate with the State of Idaho, irrigators, and others on the Snake River Basin Water Committee to identify options for obtaining 1 million acre-feet of additional water from the Snake River basin for salmon flow augmentation. The committee completed a report identifying the requested options in June 1994 and sent it to the Council for review.

We request that the statement on page 5 be modified to reflect actual performance of Reclamation and others in providing water for salmon flow augmentation in the Lower Snake River.

Sincerely,

Douglas J. James  
Regional Environmental Officer







**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

August 26, 1994

OFFICE OF THE ADMINISTRATOR

In reply refer to:

AR

Mr. Ted Bottiger, Chairman  
Northwest Power Planning Council  
851 SW Sixth Avenue, Suite 1100  
Portland, OR 97204

Dear Mr. Bottiger:

Thank you for the opportunity to review and comment on the 14th draft Annual Report of the Northwest Power Planning Council (Council). Our suggested technical and editorial comments on the draft were transmitted separately by Bonneville Power Administration (BPA) staff.

The report clearly shows the progress we have made in the region on Power Plan and Fish and Wildlife Program initiatives, at a time when the nature of our industry is undergoing dramatic and rapid change. The report recognizes BPA's record breaking 1992 conservation savings of 96.2 aMW (including savings from codes and standards). BPA shares the Council's pride in the region's conservation successes and likewise the desire to see these successes continue. Similarly, our fish and wildlife efforts in a time of adverse environmental conditions, have been greatly expanded and focused to address the growing challenge of improving salmon runs while still addressing key resident fish and wildlife needs. These efforts have taken place against a backdrop of some of the worst water conditions on record.

Through implementation of our strategic Business Plan, we expect to stabilize our risk exposure and solidify our competitive position as a supplier of choice. This strengthening of our competitive position is essential to our success in working with the Council to fulfill the requirements of the Regional Act, including fish and wildlife responsibilities. Like the Council, BPA remains committed to a long-term least-cost power system; development of cost-effective conservation, renewable and high-efficiency resources; inclusion of quantifiable environmental costs and benefits in resource decisions; an adequate and reliable power system; protection, mitigation and enhancement of fish and wildlife affected by the Federal hydropower system.

We applaud the Council for its willingness to face the challenge of the marketplace today. The Council has demonstrated its leadership by recognizing that centralized power planning of the past must change if it is to be relevant to the competitive markets of tomorrow. Efforts to guide the transition to the competitive marketplace, to level the regulatory playing field for existing and emerging competitors, to move away from a prescriptive path toward performance criteria, and to consider fundamental changes in its planning assumptions to reflect near-term rate impacts are further examples of the Council's leadership and value to the region.

BPA stands committed to continuing to work cooperatively with the Council to achieve the goals of the Act

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Hardy', with a stylized flourish at the end.

Randall W. Hardy  
Administrator and Chief Executive Officer

cc:

Power Planning Council Members

Mr. Ed Sheets, Executive Director, NWPPC





**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

August 19, 1994

In reply refer to: **AR**

Ms. Carlotta Collette  
Northwest Power Planning Council  
851 SW. Sixth Avenue, Suite 1100  
Portland, OR 97204

Dear Carlotta:

Thank you for the opportunity to review the Council's Draft 14th Annual Report. Enclosed are technical and editorial comments developed by BPA staff.

A letter from the Administrator for inclusion in the final Annual Report will be provided separately.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen", is positioned above the typed name.

**Karen Hunt**  
Manager for Council Liaison

Enclosure

COMMENTS ON  
THE NORTHWEST POWER PLANNING COUNCIL'S  
ANNUAL REPORT TO CONGRESS (Doc. 94-29)

FISH & WILDLIFE ACTIVITIES

Page 2, Paragraph 3: "Since 1992, when the Council adopted the strategy, natural environmental conditions for salmon in the Columbia River Basin and N.E. Pacific Ocean have worsened."

Page 5, Paragraph 5: "Very little water has been made available from the upper Snake River Basin to increase [Snake River] flows during..."

Page 8, Paragraph 5: "...to involve local residents in salmon recovery measures." Bonneville is assisting these efforts.

Page 10, Paragraph 2: With Bonneville funding, "the managers formed the Integrated Hatchery Operations Team..."

Page 11, Paragraphs 1 & 2: The report states that the Tribes raised concerns about the pace of implementation and that the Council is following up with these concerns with Bonneville. The report further states that the Council's aggressive schedule has been difficult for agencies to meet.

During an extensive review of implementation of the Strategy For Salmon between the Council and Bonneville, 117 measures were identified for Bonneville implementation. Of all these measures, only five were identified as unfunded, and four of these were undergoing internal scoping and design for planned funding and implementation. Only one measure, a study of Pacific Lamprey was identified as not progressing. The Council's report should be more positive with respect to Bonneville's participation in line with the statement on page 4, paragraph 5, "The strategy is being implemented."

Many of the significant problems the Tribes have with Bonneville's implementation relate to supplementation which, as the report states on page 10, paragraph 3, are stalled due to determinations and approvals that only the National Marine Fisheries Service can make.

Page 11, Paragraph 4: The statement referencing the voluntary leaseback program should be deleted. At considerable expense and time, BPA attempted to emplace a demonstration of the harvest leaseback concept with non-Treaty gillnetters in 1992 and again in 1993. The purpose of the demonstration was to increase the escapement of threatened Snake River fall chinook and other weak upriver salmon stocks. The demonstration was not implemented, however, because Treaty Tribes would not agree to

pass any of the leased fish through their Zone 6 commercial fishery to the spawning grounds. Further, Bonneville contracted with Salmon-For-All, a non-treaty gillnet industry group to, in part, allow them to seek resolution with the Tribes. Following the attempt at harvest leaseback in 1993, Bonneville wrote to the Council, referring the measure back for their action and suspended further attempts at implementation pending policy clarification.

The adverse statement concerning selective harvest gear should also be deleted. As the Council's report states on page 8, paragraph 4, Bonneville has "...contracted with Oregon and Washington to develop proposals in 1995 and 1996.

Page 11, Paragraph 7: Again, the references to leaseback and selective gear research should be omitted. Bonneville is currently advertising a Request For Proposals for the carrying capacity study. We therefore, recommend the reference to this activity as being "stalled" be deleted. This would also make the report more consistent with statements on page 10, paragraph 4.

## **POWER PLANNING ACTIVITIES**

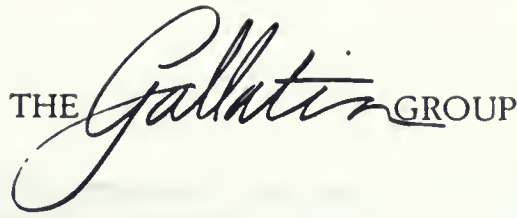
Page 15, Paragraph 1: "...secured a record 96.2 average megawatts of savings (including savings from codes and standards)."

Page 16, Paragraph 7: ..."Bonneville customers have agreed in principle that their power sales contracts may include commitments to carry out integrated resource plans, which include conservation targets."

Page 19, General Comment. The report should acknowledge the optioned resources in the Resource Contingency Program (RCP). BPA is currently holding options on three combined cycle combustion turbine power plants which are capable of producing approximately 11,000 aMW. RCP implements a longstanding Council action item and is a component of BPA's current resource strategy as described in the Business Plan.







MEMORANDUM

July 25, 1994

To: Council Members, Northwest Power Planning Council

From: Jim Goller 

Re: Inclusion of Resource Contingency Program (Optioning Process) in the Council's 14th Annual Report.

Attached you will find a letter from Ida-West, a partner with J. R. Simplot Company and TransCanada Pipelines Limited in the Hermiston Power Project which is an "optioned project" under the Council's Resource Contingency Program.

This letter addresses what we believe is an oversight by the Council in its Draft 14th Annual Report which is the absence of any reference to this action taken by BPA and the above Partners in compliance with and at the direction of the Council's 1991 Northwest Power Plan.

We believe that this is a bold innovative program to address uncertainty in future power supplies for BPA. More uncertainty exists today that at the time of the adoption of the Plan.

It is important that the Council stand behind the Resource Contingency Program and should at the least give it prominent recognition in the Annual Report.

The Partners of the Hermiston Power Project are now actively pursuing the permitting process with ODOE/EFSEC. Without the Council's recognition and support of this early process (step one of the Council's Plan) it will be difficult to complete the permitting process and place the projects in a "ready condition" where BPA could then make the decision on whether or not to construct, place on hold, or terminate depending on the demand for electricity (step two of the process) as envisioned and directed by the Council's Power Plan.

We respectfully petition the Council to correct this oversight and include actions taken under the Resource Contingency Program in its 14th Annual Report.

Boise

James A. Goller  
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P.O. Box 1122  
Boise, ID 83702-5468  
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July 19, 1994

Northwest Power Planning Council  
851 S.W. Sixth Avenue, Suite 1100  
Portland, OR 97201-1337

Subject: *Draft 14th Annual Report*

Dear Council Members:

Thank you for the opportunity to comment on your Draft 14th Annual Report ("Draft").

The Annual Report should discuss the Resource Contingency Program (RCP) which was established by the Council in its 1991 Northwest Power Plan and became a reality on October 7, 1993 -- during the period covered by the Draft -- with the signing of agreements under which Bonneville Power Administration acquired 1090 aMW of energy options. Although the initial investment in the RCP is small compared to other activities discussed in the Draft, the RCP provides flexibility through short lead-time resources that is essential to the Council's successful management of uncertainties related to future Northwest loads and fish impacts on the region's hydroelectric capacity. The Council's implementation of this portion of its 1991 plan should be described in some detail to the relevant Congressional committees to provide a complete picture of the Council's accomplishments during the reporting period.

The Council recognizes that "a major focus of the next power plan will be achieving the goals of the Northwest Power Act in this new competitive utility environment." (Draft, p.3) The Council's RCP is an innovative program that in an uncertain environment reduces the risk of under- or overbuilding resources. The RCP significantly shortens the time required to bring a major resource on line should one or more of the RCP projects be selected to meet the increasing power needs of the Northwest.

Hydro-Quebec, a Canadian utility similar to BPA in many respects, has recognized the value of the Council's innovative options program. The utility, after visiting the Northwest in 1993 to learn about the RCP, has begun implementation of its own options program to reduce its risk of over- or underbuilding new generation.

Council Members  
Draft Comments  
July 19, 1994  
Page 2

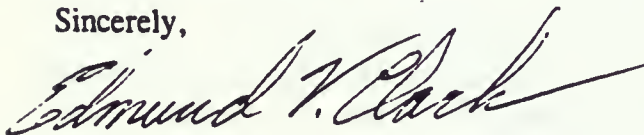
A major focus of the Draft is appropriately fish and wildlife activities. One of the key criteria used in the competitive acquisition process to select the RCP projects was the displacement and dispatch capability of the resources. This flexibility could be critical to the operation of the Northwest power system in light of the increased fish and wildlife constraints on its hydroelectric capacity.

Potential new resources of the Northwest are described on p. 19 of the Draft. A brief discussion on each of the RCP projects would be appropriate here with an explanation of their value to the energy security of the region.

An appropriate subheading under "Developing the Next Power Plan" (Draft, p. 21) would be "Management of Uncertainty" where the Council's RCP and other programs that reduce future risk associated with power generation could be discussed.

We see the planning and strategic direction provided by the Council as key to maintaining the economic well-being of the Northwest. Thank you for the opportunity to comment on your Draft 14th Annual Report.

Sincerely,



Edmund V. Clark  
Vice President - Thermal Projects



Randolph J. Hill  
Vice President and General Counsel



DEPARTMENT OF THE ARMY  
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS  
P.O. BOX 2870  
PORTLAND, OREGON 97208-2870

AUG 01 1994

Reply to  
Attention of:

Directorate of Planning  
and Engineering

Ms. Carlotta Collette, Publications Editor  
Northwest Power Planning Council  
851 S.W. Sixth Avenue, Suite 1100  
Portland, Oregon, 97204

Dear Ms. Collette:

We are responding to Mr. Sheets' request for comments on your draft annual report to Congress. Our enclosed comments address publication number 94-29: **DRAFT 14th ANNUAL REPORT of the Pacific Northwest Electric Power and Conservation Planning Council.**

We are prepared to discuss our comments and suggestions concerning publication 94-29, as well as any other related Corps activities or programs. Thank you for the opportunity to comment.

Sincerely,

Bartholomew B. Bohn II  
Colonel, Corps of Engineers  
Deputy Division Engineer

Enclosure

Copies Furnished:

Mr. Randall W. Hardy, Administrator  
Bonneville Power Administration  
P.O. Box 3621A  
Portland, OR 97208

Mr. John W. Keys, Regional Director  
U.S. Bureau of Reclamation  
Pacific Northwest Regional Office  
1150 North Curtis Road  
Boise, ID 83706-1234



Comments on NPPC Publication 94-29, DRAFT 14th ANNUAL REPORT of the Pacific Northwest Electric Power and Conservation Planning Council

Page 4, 6th paragraph, 3rd sentence: An example of new scientific information being studied, such as surface collection systems or the results of the on-going Snake River reservoir survival study by NMFS, should be mentioned in this paragraph.

Page 5, second bullet under "Flow improvements": This paragraph does not accurately describe river operations. The following should replace the first three sentences: "River operations continue to be coordinated by the federal agencies, the Corps, Bonneville, the Bureau of Reclamation, and the National Marine Fisheries Service, with the addition of U.S. Fish and Wildlife Service in 1994. These agencies discuss proposals at regular meetings of the Fish Operations Executive Committee. Chaired by Council Chairman Ted Bottiger, the committee conducts public meetings regularly to review management of the river and identifies disputes about timing and storage of the flows."

Page 5, first bullet under "Improve bypass facilities at the dams": To more accurately describe bypass facility improvements, the second and third sentences should be replaced with the following: "In 1993, the Corps installed screens at Ice Harbor Dam. New juvenile bypass facilities at Ice Harbor and The Dalles are scheduled for completion by 1996 and 1998, respectively."

Page 5, second bullet under "Improve bypass facilities at the dams": The statements "The Corps is on schedule to extend the screens except at John Day Dam. The agency delayed work there, contending that extension of the screens won't significantly improve survival." are inaccurate. In a letter to Mr. Stan Grace from General Harrell, dated October 20, 1993, the schedule for installation of extended-length screens at McNary Dam is 1996, not 1995, as stated in the *Strategy for Salmon*. An analysis of installation of extended-length screens at John Day Dam was included in the System Configuration Study to determine benefits, costs, and schedules. The Corps has responded to congressional language where \$1.2 million was added to start the process to add extended-length screens at John Day Dam. Work has been initiated for installation of extended-length screens at this project.

Page 6, bullet under "Improve transportation facilities": This statement is not accurately stated. It should be revised to say: "The Corps began operating the new juvenile collection facilities at Lower Monumental Dam in 1993, increasing the capability of

intercepting juvenile Snake River salmon and steelhead. Construction of new transportation facilities at McNary Dam began in 1993, and was completed in spring of 1994. The Corps also continued to improve holding and loading facilities by installing roofs to shade the raceways at Little Goose Dam in late 1993 and Lower Granite Dam in 1992. The salmon strategy also called for testing improved transportation practices, such as dispersed releases below Bonneville Dam and alternative release sites. The Corps has implemented dispersed releases below Bonneville Dam, and, in 1992, started test releases of steelhead at Tongue Point."

Page 6, bullet under "Lower Snake River reservoir drawdowns": The Corps and NMFS have not announced that a biological test of drawdowns will be conducted. The sentence "The Corps and National Marine Fisheries Service announced..." should be replaced with: "As part of the National Environmental Policy Act (NEPA) process, the Corps and National Marine Fisheries Service are studying the possibility of conducting a Lower Snake River biological drawdown test. A number of biological drawdown test alternatives, including a no action alternative, are being evaluated. The action alternatives include biological drawdown tests at Lower Granite Dam as early as spring of 1995 or as late as spring 1997. The Corps and NMFS expect to complete the NEPA process for conducting a Lower Snake River biological drawdown test in early 1995."

Page 12, bullet under: "Protect and enhance fish populations": The Corps, along with Bonneville Power Administration (BPA) and the Bureau of Reclamation (BoR) have incorporated a proposal to study the problem of declining kokanee stocks in Lake Pend Oreille in the Columbia River System Operation Review (SOR).

Page 12, bullet under: "Libby Dam Mitigation": The Corps attempts to carry out these measures, accounting at the same time for legal authorities and operational mandates under the Endangered Species Act (ESA).

Page 13, bullet under: "Sturgeon and bull trout": White sturgeon studies and evaluations are ongoing. The following two sentences should be added to end of this paragraph: "A white sturgeon technical committee to implement sturgeon recovery was started in 1992. To aid sturgeon spawning, the Corps initiated a flow augmentation program in 1993, and increased flows for sturgeon spawning and recruitment in 1994."

Mr. J. Gary Smith, Acting Regional Director  
National Marine Fisheries Service  
7600 Sand Point Way, N.E.  
Bin C15700, Building 1  
Seattle, WA 98115

Commander, Portland District  
U.S. Army Corps of Engineers

Commander, Seattle District  
U.S. Army Corps of Engineers

Commander, Walla Walla District  
U.S. Army Corps of Engineers





